

REMARKS

I. Introduction

In the Final Action, claims 1 – 27 were rejected under 35 U.S.C. § 103(a). In light of the remarks contained herein, the Applicants respectfully request that these rejections be withdrawn. Claims 1 – 27 remain pending in the present application.

II. Remarks

Claims 1 – 27 are rejected as obvious in light of *Ginetti et al.*, U. S. Patent No. 6,170,080 (hereinafter *Ginetti*) and *Jones et al.*, U. S. Patent No. 5,629,860 (hereinafter *Jones*). As the Examiner is aware, in order to establish a prima facie case for obviousness, a rejection must satisfy three criteria: the rejection must propose a reference or combination of references that teach or suggest all the claim limitations; it must posit a suggestion or motivation to modify the reference, or to combine reference teachings, found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art; and the combination of the rejection must have a reasonable expectation of success. *See* M.P.E.P. § 2143. Without conceding that the rejection has met the other criteria, the Applicants, again, respectfully submit that the proposed combination of *Ginetti* and *Jones* does not teach all of the limitations of the rejected claims.

In rejecting claims 1 – 27, the Final action concedes that *Ginetti* fails to teach “determining R values for signal routes and building a model of said routes with R values.” *See* Final Action p. 2, paragraph 3. To overcome this deficiency, the Final Action proposes combining *Ginetti* with *Jones*. The Applicants first traversed this rejection in their response dated August 20, 2003 (hereinafter “Previous Response”), and include by reference all of the arguments forwarded there. For the sake of brevity, the entirety of those arguments will not be repeated.

Claims 1, 11, and 21 all recite “determining resistance and capacitance values for the estimated signal routes.” In rejecting these claims, the Final Action repeats the Previous Action’s contention that “*Jones* discloses determining R values for signal routes,” *see* Final Action p. 5, and cites *Jones* column 7 line 30 – column 8 line 53 as specifically doing so.

The Applicants respectfully assert, again, that the Examiner's reading of the *Jones* reference is mistaken. *Jones* does not teach determining the resistance value of estimated signal routes. Quite to the contrary, *Jones* teaches adjusting the capacitance values used in the analyzed equations in order to compensate for not having determined this resistance. The Applicants respectfully submit, that a careful inspection of the very sections of *Jones* cited by the Final Action will demonstrate the Applicants' position.

At line 46, *Jones* lists the basic equation for routing delay:

$$t_{PR} = t_{CL} + t_{RC}$$

where:

t_{CL} is the delay due to capacitive loads, and t_{RC} is the delay due to the RC time constant. *Jones* then demonstrates that t_{CL} can be shown to be equal to $K * C_L$, where C_L is the capacitive load and K is a constant used in lieu of determining the signal transition resistance. The next several paragraphs in the cited range of *Jones* identify the known prior art difficulties related to ignoring the value of t_{RC} . "Although the simplified routing delay equation [$t_{PR} = t_{CL}$, used when the value of t_{RC} is discounted] may have been sufficient in previous IC technologies, with the performance requirements and dimensions of the current technologies, such a simplified routing delay equation has been shown to be insufficient." See *Jones*, column 8, lines 15 – 19. To overcome this weakness, *Jones* recommends adjusting the equation to accommodate for the now significant t_{RC} . Specifically, *Jones* teaches using a modified capacitance load C_L' where:

$$C_L' = C_L + \left(\frac{t_{RC}}{K} \right)$$

such that

$$t_{PR} = t_{CL} + t_{RC} = K C_L + t_{RC} = K C_L' = t_{CL}'$$

See *Jones*, column 8, lines 43 – 53.

According to *Jones*, this equation allows for the more accurate estimation of the routing delay. See *Jones*, column 8, lines 57 – 61. The Applicants respectfully point out that it is a modified capacitance load C_L' that *Jones* advocates using in order to compensate for signal route delay, and that at no time does *Jones* teach, or even indicate the plausibility of, determining the resistance of the signal route. Because it does not, the combination of *Ginetti*

and *Jones* does not teach all of the limitations of claims 1, 11, and 21, and the Final Action has failed to make a prima facie case for obviousness. The Applicants respectfully request that the rejection of claims 1, 11, and 21 be withdrawn.

Claims 2 – 10, 12 – 20, and 22 – 27 all depend, either directly or indirectly from claims 1, 11, or 21. Claims 2-10, 12 – 20, and 22 – 27 thus inherit all of the limitations of their respective base claim. Therefore, claims 2 – 10, 12 – 20, and 22 – 27 all contain limitations neither taught nor suggested by the combination of *Ginetti* and *Jones* and the Applicants respectfully request that the rejection of claims 2 – 10, 12 – 20, and 22 – 27 be withdrawn.

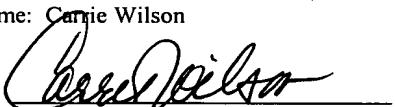
In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this response. However, if a fee is due, please charge our Deposit Account No. 08-2025, under Order No. 10001834-1 from which the undersigned is authorized to draw.

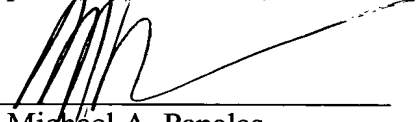
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Date of Deposit: March 4, 2004

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